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6 MAY 1982

82-4899/1

MEMORANDUM FOR: Director of Central Intelligence
Deputy Director of Central Intelligence

VIA: Deputy Director for Intelligence

FROM:

[REDACTED]

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Director of Scientific and Weapons Research

SUBJECT:

Dense Pack Developments [REDACTED]

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1. Action. None Required.

2. Background. Admiral Inman has asked that we provide you with a short summary of the proposed MX deployment scheme called Dense Pack, and the history of CIA's contributions to the formulation of this concept. [REDACTED]

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Dense Pack -- Brief Description

3. DoD planners are studying an MX deployment system, currently called Dense Pack, which could provide an interim solution to the vulnerability problems faced by fixed land-based missiles. The concept involves deploying the missiles in very hard shelters spaced relatively close together. Soviet attack planners, then, would face great uncertainties in attacking the system because of concerns for fratricide, blast effects, and other phenomena resulting from closely spaced nuclear detonations. [REDACTED]

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CIA Role in Dense Pack

5. The uncertainties relative to the fratricide and other nuclear effects are extremely complex. But CIA/OSWR has funded and directed an external analysis contract with [REDACTED] to understand these phenomena in order to analyze the effectiveness of Soviet ICBMs against Minuteman and proposed MX deployment scenarios such as MPS. During 1975 and 1976 our focus was on assessing the Soviet capability to avoid fratricide while using two or more RVs to attack a Minuteman Silo. During 1977 and 1979 the analysis addressed Soviet effectiveness in attacking MX/MPS. The present Dense Pack concept probably evolved from this analysis. [REDACTED]

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SUBJECT: Dense Pack Developments [REDACTED]

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6. In particular a 1978 report which we widely disseminated revealed the difficulties closely spaced silos would present the Soviets due to the fratricide problems. Furthermore, we pointed out that the nature of any possible attack against such a deployment would be inherently susceptible to an ABM defense. These and other conclusions apparently have been key factors in the development of the Dense Pack concept. To my knowledge no other comparable analysis was conducted during the 1977 - 1978 time frame and no other reports on this subject have been published. [REDACTED]

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7. FTD apparently began to propose the idea of Dense Pack about 18 months ago. The Ballistic Missile Project Office (BMO) started about six months ago through a meeting with [REDACTED] engineers who are key participants in our [REDACTED] analysis contract. Because CIA's complex programs to analyze fratricide effects are unique, both FTD and BMO are running all their calculations on the CIA owned computer at [REDACTED] using our software. Thus the Dense Pack concept would not be available to DoD today if it were not for CIA's efforts. [REDACTED]

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Plans for Future Analysis

8. We have an ongoing task with Project [REDACTED] which will study, in-depth, the various attack options, nuclear effects, U.S. fly out capabilities, and other relevant aspects of this problem. We expect to have a much better understanding of the factors bearing on the specific Dense Pack deployment proposal in the near future. However, we face major areas of uncertainty particularly concerning the nuclear effects resulting from a laydown of so many warheads in such a small area. Nonetheless we believe the Soviets probably have even greater uncertainties concerning any such situation. They may have to redesign RVs and fuzing mechanisms among other key system improvements to give them any measure of confidence in attacking such an MX deployment scenario. All this would buy the US the time to find a permanent solution to the survivability issue. [REDACTED]

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9. As keeper of the keys to the entire analysis effort for the US, we feel an acute responsibility to continually verify the accuracy of our programs. [REDACTED]

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